

Spotlight on Green Communities

Whether they're purchasing renewable energy, recycling construction debris, or installing permeable paving, communities in northeastern Illinois are getting greener. On this page we're highlighting communities and park, conservation, and forest preserve districts willing to share their experiences with selected green practices.



Case Study: Village of Niles Community Rain Garden

In spring 2008, the Village of Niles set out to transform a three-quarter acre lot with two vacant buildings into rain gardens, native prairie plants, and permeable pathways. By June the Village had a 1,400 square foot rain garden with over 560 native flowers and grasses.

A rain garden is a planted depression that collects and filters rainwater runoff from impervious urban areas like roofs, driveways, walkways, and

compacted lawn areas. It reduces the runoff by allowing stormwater to seep naturally into the ground instead of flowing into storm drains and surface waters which can cause erosion, pollution, flooding, and diminished groundwater. Native plants are recommended for rain gardens because they generally don't require fertilizer and are more tolerant of local climate, soil, and water conditions. A rain garden is a stormwater best management practice (BMP) in the broader context of watershed protection.

Creating the Garden

According to Steven Vinezeano, Niles' Assistant Village Manager and staff LEED AP (Leadership in Energy and Environmental Design Accredited Professional), the first step was to select a site. He said it was important to identify a location that both optimizes the functioning of a rain garden and lends itself to educating the public, one of the Village's primary goals.

He said it was essential to find leadership support for a demonstration project and buy-in from potential donors in order to get the financial assistance they needed. Their efforts resulted in generous grants, donations and support from local residents, businesses, schools, and community organizations.

The Coca-Cola Bottling Company in Niles was interested in partnering in the project for their water sustainability initiative, and helped get the project started by contracting with a landscape architect to design the vacant lot, a contribution amounting to \$5000. The table below is a list of the native Illinois plants and forbs selected for the site.

Steven has four recommendations for communities interested in establishing a rain garden:

- 1) Identify a location that is functional and visible;
- 2) Establish support for the concept of a demonstration rain garden site among municipal leadership;
- 3) Garner support and buy-in from potential donors; and
- 4) Involve the whole community as much as

Native Illinois Plants and Forbs in the Community Rain Garden

| QTY | Common Name | Scientific Name | Soil Condition | Height |
|-----|------------------------------|----------------------------------|----------------|--------|
| 50 | Sky Blue Aster | Aster azureus | Dry-Mesic | 2-3' |
| 30 | Tall Coreopsis | Coreopsis tripteris | Dry-Mesic | 6-8' |
| 75 | Purple Coneflower | Echinacea purpurea "magnus" | Dry-Mesic | 2-3' |
| 15 | Wild Geranium | Germanium maculatum | Dry-Mesic | 1.5-2' |
| 36 | Prairie Blazing Star | Liatris pycnostachya | All | 4-6' |
| 15 | Wild Bergamot | Monarda Fistulosa | All | 3-4" |
| 25 | Wild Quinine | Parthenium integrifolium | Wet | 3-4" |
| 50 | Obedient Plant | Physostegia Virginia "deep pink" | Wet-Mesic | 3-4" |
| 10 | Compass Plant | Silphium laciniatum | Dry-Mesic | 6-8' |
| 50 | Showy Goldenrod | Solidago speciosa | Dry-Mesic | 2-3" |
| 15 | Golden Alexanders | Zizia aurea | Wet-Mesic | 1.5-2" |
| 10 | Prairie Dock | Silphium terebinthinaceum | All | 1.5-2" |
| 24 | Joe Pye Weed | Eupatorium maculatum | Wet-All | 4-6" |
| 20 | Side Oats Grama | Bouteloua curtipendula | Dry | 2-3' |
| 20 | Switch Grass | Panicum virgatum | Dry-all | 4-6" |
| 25 | Little Bluestem Grass | Schizachyrium scoparium | Dry-Mesic | 2-3' |
| 20 | Indian Grass | Sorghastrum nutans | Dry-all | 4-6' |
| 22 | Purple Love Grass | Eragrostis spectabilis | All | 1-3' |

The next step was obtaining mulch, compost, river rock, stone, top soil, and plants. In Phase I, Coca-Cola purchased \$6,000 worth of materials and contributed 150 volunteers to work on the project along with other volunteers in the community. During Phase II in the spring of 2009, additional donations and grants totaling \$7000 paid for the balance of materials. Interested in getting involved with the popular project, a resident who runs a local landscaping company donated excavation work worth over \$15,000.

Results and Benefits

The drainage area going to the rain garden is over 36,000 square feet, of which 20,000 comes from adjacent rooftops and pavement. After two phases, the site has a total of 2,754 square feet of rain garden and 1,866 square feet of prairie grass area, both holding over 2,000 native plantings that will retain the first inch of rainfall. The plant mix – sand, topsoil, and organic mulch – significantly increases the absorption of the soils. The garden provides a habitat for butterflies, birds and other insects, and attracts dragonflies, which consume high rates of mosquitoes. Little maintenance will be required when the plants and grasses are fully established.

The community rain garden project was accomplished with support and sponsorship of Coca-Cola, Smith Engineering, Chris's Landscape, Home Depot, Niles Lions Club, Groot Industries, ComEd, Lurvey Landscaping Supply, Pizzo Ecological Restoration, Environmental Adventure Club of Notre Dame High School, and the hard working employees of the Niles Sewer and Water Department.

The project was recognized by the Royal Bank of Canada with a Blue Water Project Grant of \$5,000, a program designed to help foster a culture of water stewardship by providing community action grants around the world. For more information, go to <http://www.rbc.com/environment/bluewater/index.html>.

Next Steps

A later phase of this project will include an educational program and signage for students and visitors. By including an educational element in the project, the Village aims to inspire residents, businesses, students, and others to understand the practice, construct their own rain garden, and become stewards of our water resources. Other additions to the project will include additional rain gardens, more prairie grasses, foot bridges, benches, solar lighting, and pervious parking spots.

Advice for Communities

Vinezeano has four recommendations for communities interested in establishing a rain garden: identify a location that is functional and visible; find support for the idea of a demonstration rain garden site; garner support and buy in from potential donors; and involve the whole community as much as possible. If you would like more information on the Village of Niles Community Rain Garden Project, contact Steven Vinezeano by phone: (847) 588-8000, or email: scv@vniles.com.

Resources

This section contains selected resources for information on rain gardens, watershed protection, outreach materials, and native plants.

Rain gardens

<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=72> : a fact sheet produced by the United States Environmental Protection Agency (USEPA) National Pollutant Discharge Elimination System (NPDES) which includes descriptions, applicability, site design, and other details.

http://www.standingupforillinois.org/cleanwater/rg_index.php: the site of Governor Pat Quinn's Sustainable Infrastructure Initiative, which includes the [Rain Garden Initiative](#) developed to help property owners

<http://www.raingardennetwork.com/> : Rain Garden Network, which includes general information and announcements of events, funding and grant opportunities -
<http://www.raingardennetwork.com/events.htm>.

[rain garden brochure](#) : a brochure produced by The Conservation Foundation, "Building Your Own Rain Garden."

<http://www.ia.nrcs.usda.gov/features/raingardens.html>: manuals, fact sheets, and success stories from the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) - Iowa

Watershed Planning and Protection

http://www.cmap.illinois.gov/watershed/default.aspx?ekmense=c580fa7b_8_12_222_6 : a 2007 manual produced by the Chicago Metropolitan Agency for Planning, "Guidance for Developing Watershed Action Plans in Illinois," which includes guidelines for taking a watershed approach to addressing nonpoint-source pollution

<http://www.cwp.org/>: website of the Center for Watershed Protection, which includes a general discussion of watershed protection and assistance programs at: http://www.cwp.org/Our_Work/swmgmt.htm, and a slide show "Why Watersheds? An introduction to the whys and hows of water resource protection" at <http://www.slideshare.net/watershedprotection/why-watersheds?src=embed>

<http://www.epa.gov/owow/watershed/wacademy/acad2000/protection/glossary.html>: a glossary of watershed Best Management Practices produced by USEPA Watershed Academy

<http://www.il.nrcs.usda.gov/technical/engineer/watershed.html>: USDA NRCS watershed planning case studies in Illinois

<http://cfpub.epa.gov/npdes/stormwatermonth.cfm>: outreach materials and documents on stormwater management produced by USEPA NPDES

For more information on watershed planning, contact Jesse Elam at the Chicago Metropolitan Agency for Planning by phone at 312/386-8688, or by email at jelam@cmap.illinois.gov.

Native plants

<http://www.il.nrcs.usda.gov/technical/plants/npg/index.html>: the "Illinois Native Plant Guide (NPG), revised 3/2008" produced by the USDA NRCS

http://www.theconservationfoundation.org/index.php?option=com_content&view=category&id=29:northeastern-illinois-native-plant-species: The Conservation Foundation's webpage with information and guides on native plant species in northeastern Illinois

Are there other green practice case studies you'd like to see? Is your community interested in being in the spotlight? Please contact Lori Heringa by phone at 312-386-8621, or by email at lheringa@cmap.illinois.gov.